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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/014,095

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Osamu Ohnishi

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04/04/2006

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EXAMINER

DEPPE, BETSY LEE

ART UNIT

PAPER NUMBER

2611

DATE MAILED: 04/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

51

<b>Office Action Summary</b>	<b>Application No.</b>		<b>Applicant(s)</b>	
	10/014,095		OHNISHI, OSAMU	
	<b>Examiner</b>		<b>Art Unit</b>	
	Betsy L. Deppe		2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 23, 41 and 43 is/are rejected.
- 7) ☒ Claim(s) 1, 2, 4-22, 24-40 and 42 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see pages 23-24, filed January 23, 2006, with respect to the rejection(s) of claim(s) 1-40 under 35 USC 103(a) have been fully considered and are persuasive. Therefore, the rejections have been withdrawn. However, upon further consideration, a new ground(s) of rejection of claims 3, 23 and 41 is made in view of Imaizumi (WO 00/64065).

### ***Claim Objections***

2. The claims are objected to because of the following informalities:
- a. in line 8 of claims 1-10, 21-30, and 41-43, respectively, "obtained" should be "detected" in order to be consistent with the language in the previous line, i.e. "detecting peak values";
  - b. in claims 1, 2, 4-7, 9, 10, 21, 22, 24-27, 29, 30, 42 and 43, for clarification, the Examiner suggests inserting "to detect peak timings at the time multipath occurs" after "path search process" in the "performing a path search process" step and "means for performing a path search process" in the respective claims and deleting "to detect peak timings at the time multipath occurs" after "that have been identified." Based on page 20, lines 1-4, the search process detects peak timings at the time multipath occurs.

For example, claim 1, lines 11-13 should be as follows:

“performing a path search process to detect peak timings at the time multipath occurs using the detected spreading timings and the spreading codes that differ for each base station and that have been identified ~~to detect peak timings at the time multipath occurs~~”.

c. in line 14 of claims 1, 2, 23; claim 13, line 11; line 17 of claims 21 and 22;

“obtained” should be “detected”; and

d. in line 14 of claims 4 and 42, “a peak timings” should be “a peak timing” or “peak timings” in order to be grammatically correct.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 23 and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Imaizumi (WO 00/64605). Since WO 00/64605 is in Japanese, the Examiner will reference the pertinent portions in the English equivalent (US Patent No. 6,829,291 B1).

5. With regard to claim 23, Imaizumi discloses the claimed invention including a correlator to determine a correlation value profile (103 and 105 in Figure 2); peak detection means (106 in Figure 2) and (c) subtraction means that based on an autocorrelation pattern that has been found in advance (i.e. stored in 108 in Figure 2)

generates autocorrelation patterns (output of 109 in Figure 2) with the center on spread timings of base stations (see column 7, lines 27-31) and that performs a process for subtracting the generated autocorrelation patterns (see column 8, lines 29-31). (See also Figure 3; column 4, lines 60-63; column 5, lines 1-51; column 7, lines 17-31; and column 8, lines 25-49) Since the spreading code is known in order to calculate the autocorrelation component (see column 3, lines 14-17), it is implicit/inherent that the spreading codes and timings are identified thereby reading on the limitation recited in claim 23, lines 10-11.

6. With regard to claim 41, Imaizumi discloses the claimed invention including the steps of determining correlation values (103 in Figure 2), detecting peak values (106 in Figure 2) and generating autocorrelation patterns (output of 109 in Figure 2) with the center at the spreading timing of the base station (see column 7, lines 27-31) based on an autocorrelation pattern found in advance (i.e. stored in 108; see column 7, lines 2-5). (See also Figure 3; column 4, lines 60-63; column 5, lines 1-51; column 7, lines 17-31; and column 8, lines 25-49) Since the spreading code is known in order to calculate the autocorrelation component (see column 3, lines 14-17), it is implicit/inherent that the spreading codes and timings are identified thereby reading on the limitation recited in claim 41, lines 9-10.

7. Claim 43 is rejected under 35 U.S.C. 102(a) as being anticipated by the admitted prior art as shown in Figures 3 and 5. The admitted prior art in Figure 5 of the application discloses determining a correlation value to determine a correlation value profile (101), detecting peak values and peak timings (102), identifying different

spreading codes, i.e. "scrambling code" (103) and performing a path search process to detect the peak timing at the time multipath occurs (104). (See page 7, lines 12-19 and page 8, lines 7 - page 9, line 18) By analyzing each peak to confirm whether the peak is a result of noise (see "noise such as multipath reception" on page 9, line 15), the decoding process (104) implicitly detects "the peak timings at the time multipath occurs" thereby reading on the claimed limitation.

***Claim Rejections - 35 USC § 103***

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Imaizumi (WO 00/64605) in view of the admitted prior art. Since WO 00/64605 is in Japanese, the Examiner will reference the pertinent portions in the English equivalent (US Patent No. 6,829,291 B1).

Imaizumi discloses the claimed invention including the steps of determining correlation values to determine a correlation value profile (103 and 105 in Figure 2); detecting peak values (106 in Figure 2); generating autocorrelation patterns (output of 109 in Figure 2) with the center at the spreading timing of the base station (see column 7, lines 27-31) based on an autocorrelation pattern found in advance (i.e. stored in 108; see column 7, lines 2-5); and subtracting the generated autocorrelation pattern from the correlation value profile (see column 8, lines 29-31). (See Figure 3; and column 4, lines 60-63; column 5, lines 1-51; column 7, lines 17-31; column 8, lines 25-49) Since the

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spreading code is known in order to calculate the autocorrelation component (see column 3, lines 14-17), it is implicit/inherent that the spreading codes and timings are identified thereby reading on the limitation recited in claim 41, lines 9-10. However, Imaizumi does not teach using the resulting value profile to search for a next base station.

The admitted prior art discloses using a correlation value profile to search for a base station. (See Figures 2 and 3 of the application) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the method of Imaizumi in the cell search device in the admitted prior of the present application in order to improve performance by reducing the effect of autocorrelation components in cell searching methods/devices.

### ***Allowable Subject Matter***

10. Claims 1, 2, 4-22, 24-40 and 42 are allowable.

11. The following is a statement of reasons for the indication of allowable subject matter:

a. with regard to claims 1, 4, 21, 24, and 42, prior art of record does not teach or suggests a cell search method or device that includes generating autocorrelation patterns with the center at the peak timings at the time the multipath occurs and subtracting each of these autocorrelation patterns from the correlation delay

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profile, as recited in the respective claims, in combination with the other recited limitations;

b. with regard to claims 2, 5, 22 and 25, prior art of record does not teach or suggests a cell search method or device that includes subtracting the peak values caused by multipath from the correlation value profile, as recited in the respective claims, in combination with the other recited limitations; and

c. with regard to claims 6-20 and 26-40, prior art of record does not teach or suggests a cell search method or device that includes the mask processing step or means, as recited in the respective claims, in combination with the other recited limitations.

### ***Conclusion***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betsy L. Deppe whose telephone number is (571) 272-3054. The examiner can normally be reached on Monday, Tuesday and Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.



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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

13. Please note that this application has been assigned to a different Examiner and to Art Unit 2611.

A handwritten signature in black ink, appearing to read 'B. Deppe', with a stylized, cursive script.

Betsy L. Deppe  
Primary Examiner  
Art Unit 2611